



#### LIMITED WARRANTY

PANAREX Inc. warrants to the original purchaser that this product shall be free from defects in workmanship and material for two years from the date of original purchase. During this warranty period PANAREX will provide free of charge both parts and labor necessary to correct defects in workmanship or material.

This warranty does not cover damage due to lightning, fire, flood, or other acts of God, damage from accident abnormal conditions, improper use, or faulty installation, or damage by attempts to repair the units other than by the authorized service of PANAREX.

PANAREX's liability under this warranty is limited to servicing or adjusting equipment returned to PANAREX authorized service centers with freight prepaid.

#### **Panarex Electronics**

 **Pansat**® Satellite TV System

11672 Tuxford Street.  
Sun Valley, CA91352. U.S.A.  
Telephone : #818-768-5161  
Fax : #818-768-5191

© 2004 by Panarex Electronics

# User's Manual



## 2500A

**DVB Digital Video Broadcasting Receiver  
Free To Air Program Reception Only**



**Panarex Electronics**  
SUN VALLEY, CALIFORNIA, U.S.A.

# IMPORTANT SAFETY INSTRUCTIONS



All the safety and operating instructions should be read before the product is operated.

The safety and operating instructions should be retained for future reference.

All warnings on the product and in the operating instructions should be adhered to.

All operating and using instructions should be followed.

Unplug this product from the wall outlet before cleaning.

Do not use liquid cleaners or aerosol cleaners. Use damp cloth for cleaning.

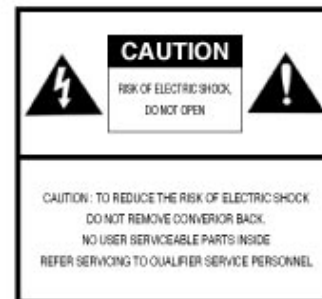


Do not use attachments not recommended by the product manufacturer as they may cause hazards.

Do not use this product near water for example, near a bath tub, wash bowl, kitchen sink or laundry tub; in a wet basement; or near swimming pool; and the like.

Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious injury to a child or an adult and serious damage to the product. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the product. Any mounting of the product should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.

A product and cart combination should be moved with care. Quick stops, excessive forces and uneven surfaces may cause the product and cart combination to overturn. This symbol is to be included in the important safeguards of applicable units adjacent to the upper side content.



This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk or electric shock to persons.



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Caution : To prevent electric shock do not use this (polarized) plug with an extension cord, receptacle or other outlet unless the blades can be inserted to prevent blade exposure.

Attention : Pour prévenir les chocs électriques ne pas utiliser ces fiches polarisées avec un prolongateur, une prise de courant ou une autre sorte de courant, sauf si les lames peuvent être insérées à fond sans en laisser aucune partie à découvert.

## WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

## IMPORTANT SAFETY INSTRUCTIONS

A product and cart combination should be moved with care. Quick stops, excessive force, and uneven surface may cause the product and cart combination to overturn.

Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the product and to protect it from overheating, and these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface.

The openings should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.

This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your product dealer or local power company. For products intended to operate from battery power, or other sources, refer to the operating instructions.

This product may be equipped with a polarized alternating-current line plug (a plug having one blade wider than the other).

This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.

This product is equipped with a three-wire grounding-type plug, a plug having a third (grounding) pin. This plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding-type plug.

Power supply cord should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the product.

The product is equipped with an attachment plug having overload protection. This is a safety feature. See instruction Manual for replacement or resetting of protective device. If replacement of the plug is required, be sure the service technician has used a replacement plug specified by the manufacturer that has the same overload protection as the original plug.

If an outside antenna or cable system is connected to the product, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Article 810 of the National Electrical Code, ANSI/NFPA 70, provides information with regard to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.

For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the product due to lightning and power-line surges.

An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.

Do not overload wall outlets, extension cords, or integral convenience receptacles as this can result in a risk of fire or electric shock.

Never push any kinds of objects into this product through openings as they may touch dangerous voltage points or shortout parts that could result in a fire or electric shock. Never spill any kind of liquid on the product.

## IMPORTANT SAFETY INSTRUCTIONS

Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:

- When the power supply cord or plug is damaged.
- If liquid has been spilled, or objects have fallen into the product.
- If the product has been exposed to rain or water.
- If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.
- If the product has been dropped or damaged in any way.
- When the product exhibits a distinct change in performance-this indicates a need for service.

When replacement parts are required, be sure the service technician has used replacement part specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.

Upon completion of any service or repair to this product ask the service technician to perform safety checks to determine that the product is in proper operating condition.

The product should be mounted to a wall or ceiling only as recommended by the manufacturer.

The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

## U.S.A.

### U.S.FEDERAL COMMUNICATIONS COMMISSION RADIO FREQUENCY INTERFERENCE STATEMENT INFORMATION TO THE USER

NOTE : This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures;

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet of a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for assistance.

Changes or modification not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Connecting of peripherals requires the use of grounded shielded signal cables.

**PREFACE****1 OVERVIEW**

- 1) How to use the REMOTE CONTROL KEY
- 2) FRONT PANEL
- 3) REAR PANEL
- 4) Simple Digital Connections
- 5) Analogue / Digital Connections

**2 OPERATING**

1. Start Up
2. Installation
3. Parental Control
4. Channel Edit
5. User Setup
6. Factory Setting
7. System Information
8. Channel List
9. Program Guide
10. Audio Change
11. Recall the Favorite Channel
12. How to download Software via RS-232 Serial Cable

**3 UHF REMOTE CONTROL KIT (Optional)****4 SPECIFICATIONS****5 TROUBLE SHOOTING****1. WHAT IS THIS PRODUCT FOR?**

This product is designed for using Digital Satellite Broadcasting and allows you to enjoy a lot of broadcasting whenever you want to watch it anytime. By simply pressing the button of the remote control unit, the vivid picture and life-like sound of digital broadcasting that your TV portrays through this product, allows you to watch whatever channel you wish of the digital broadcasting.

Throughout this manual you will notice that the operation is easy to use.

This manual will help you get the most from this product and guide you through installation, channel selection and many other functions.

In case you experience any difficulties to use this product, please consult the relevant section of this manual.

From now on, enjoy digital broadcasting with digital satellite receiver!!!

**2. WHAT FEATURE DOES THIS PRODUCT OFFER?**

- EPG (Electronic Program Guide)-7 days
- Full compliant of MPEG-2 Digital & DVB broadcasting
- 950~2150 MHz input Frequency (IF loop throughout)
- Variable input Symbol Rate (1.5~45 Msps)
- Multi Language OSD
- Automatic PAL/NTSC Conversion
- Fast Channel Change
- 3000 Channels TV & Radio program
- Flexible reception of SCPC & MCPC from C/Ku band Satellites
- S/PDIF for Digital Audio or Dolby AC-3 Bitstream Output
- Timer Function (Automatic Turn On/Off by Setting Function)
- 256 Colors (Graphic Use Interface) Number
- PIG (Picture in Graphic)
- 5 Favorite List & Unlimited Programs per each
- Powerful Channel Editing Function
  - Sorting : Alphabetic, Satellite, FTA/Scramble, Parental Lock
  - Move, Delete, Favorite Edit
  - Parental Lock, Channel Rename, Channel Skip
- Manual PID /Satellite & TP /Network Scan & Smart Search
- Satellite Scan - Simultaneous Scan with 4 Satellites
- DiSEqC 1.3 Control Compatible (STAB USALS)
- Capable of Setting the Frequency for SMATV System
- Upgrading through RS-232C (Receiver to Receiver, PC to Receiver)

**3. FOR YOUR SAFETY**

- Do not open the cover. It may cause malfunction or electric shock.
- When you do not use the product for a long rime, please pull the power cord out from the outlet. Also do not use a damaged power cord that may cause fire or electric shock
- Do not use or install the product in a humid area.
- Do not cover the product or place anything heavy on the product, Keep clear space around the product for sufficient ventilation.
- Avoid using spray or liquid materials around the product.
- Do not plug in power core before finishing all connections.

**4. PLEASE CHECK THE FOLLOWING ACCESSORIES ARE ENCLOSED**

- User Manual 1 set
- Remote Control Unit 1 Set
- Batteries(AAA Type) 2EA

**Note**

If any of the accessories listed above are missing, Please contact the sales outlet where this product was initially purchased.

**1. How to use the REMOTE CONTROL KEY**

Key	Function
<b>POWER</b> ⏻	Turns this receiver on/off. In the standby mode, it is automatically changed to TV mode that enables to watch terrestrial TV broadcasting.
⊗	Sounds Off/On
<b>INFO</b>	Shows channel information, such as channel number, channel name, Frequency, Polarity, Symbol Rate, Video PID, Audio PID and PCR PID
<b>SAT/TV</b>	Selects SAT/TV Mode
<b>TV/RADIO</b>	Toggless between the TV service and radio service
<b>PAUSE</b>	Holds the picture or release the pause
<b>SIGNAL</b>	Shows signal quality
<b>AUDIO</b>	Selects audio mode(Stereo, left only and right only). Selects language in case of Multilingual program.
<b>MENU</b>	Enters main menu screen. Or exits menu screen
<b>EXIT</b>	Moves to upper menu
<b>CH ▲</b>	Channel up/down.
<b>CH ▼</b>	Moves the cursor upward/downward in the menu screen.
<b>OK</b>	Shows channel list. Confirms selection
<b>VOL ◀</b>	Volume down/up.
<b>VOL ▶</b>	Changes the valu of a selected item
<b>LAST</b>	Returns to previous program.
<b>FAV</b>	Enters favorite program or Exit from Favorite program.
<b>0~9</b>	Changes channel directly. Controls the numerical operation. Inputs the alphabet in the name edit screen.
<b>PG ↓</b>	Execute page down function in the menu.
<b>PG ↑</b>	Execute page up function in the menu.
<b>SAT</b>	Classifies satellite by satellite
<b>EPG</b>	Shows program information



## Operating Principle

- Select an item by using up and down key and change the value of the highlighted (selected) item by using keys shown on the screen. Press OK key to enter the sub-menu if there is no instruction marked on the screen.
- The item is automatically stored and moved the upper menu by pressing the 'EXIT' key
- You can return to normal mode at any time by pressing the menu key from the menu mode

## 2. FRONT PANEL



Fig 2-2 Front panel

### 1. POWER

Switches Stand by mode and Normal viewing mode.

### 2. CH ▲, CH ▼

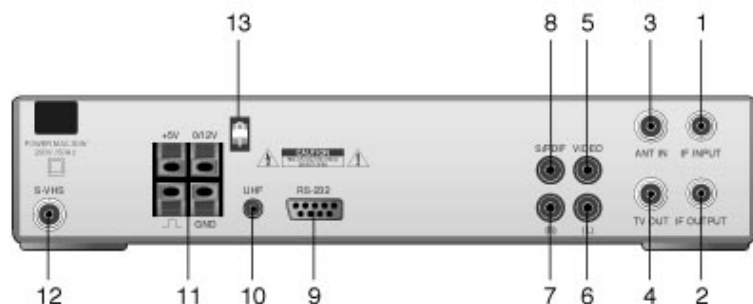
Changes Channel Up/Down


### 3. CHANNEL DISPLAY (4 digit / 7 Segment)

After pressing the power button, "Init" is showed on screen.

After the receiver searches program, the program number is displayed as "0001~2000".

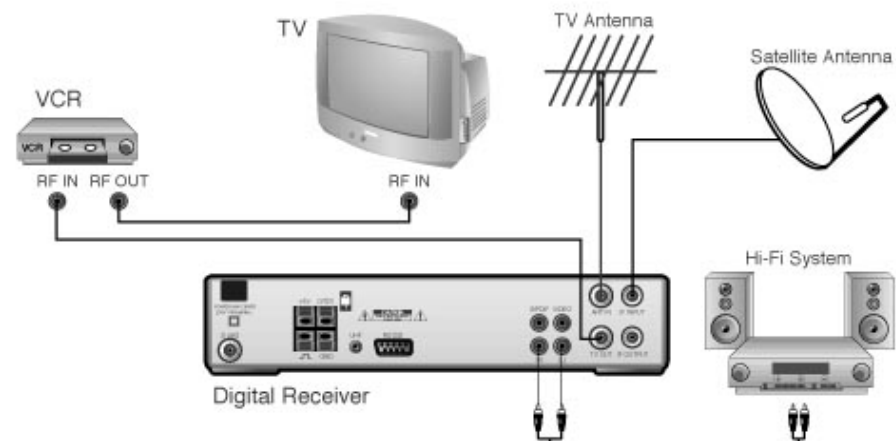
## 3. REAR PANEL



NO	NAME	FUNCTION
1	IF INPUT	IF INPUT from LNB to receiver
2	IF OUTPUT	IF Loop-through output to 2nd receiver
3	ANT IN	Input from terrestrial TV antenna
4	TV OUT	Output to TV
5	VIDEO	Composite video output
6	L	Left audio output
7	R	Right audio output
8	S/PDIF	For Digital Audio out
9	RS232	Serial port used for software downloading
10	UHF	Option for UHF Remote control kit
11	+5  GND, 0/12V	Used for mechanical polarizer Used for switching external signal (LNB)
12	S-VHS	Super Video output to TV or VCR
13	AC SWITCH	AC Power ON / OFF

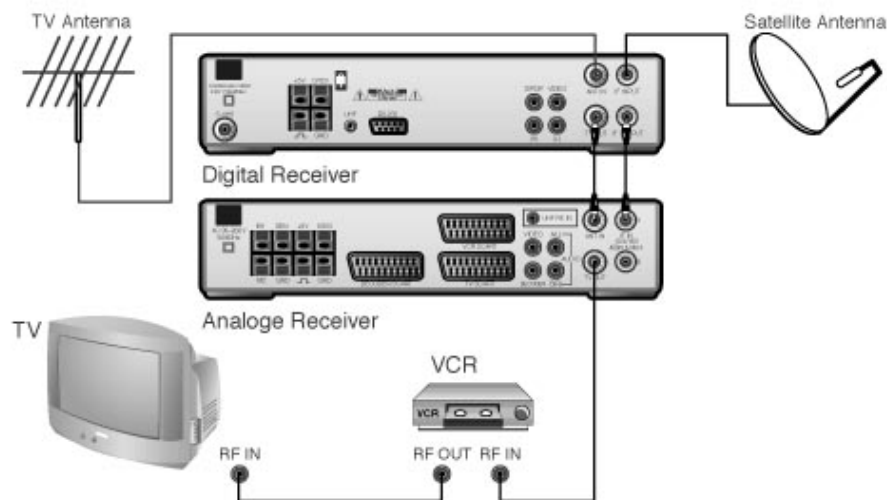
## 4. SIMPLE DIGITAL CONNECTION

**When connecting receiver to TV and VCR with RF cable (Single Antenna)**



## 5. ANALOG / DIGITAL CONNECTION

**When connecting receiver to analog receiver and VCR with RF Cable**



## 1. Start Up

If you are watching TV through the RF-cable, you need to adjust the Channel number. The type of TV and Channel numbers are set to PAL-G and Channel 38 at the factory. For USA, Ch.3 is factory preset.

Please follow the brief procedure below and watch the satellite programs.

- (1) Select the language
- (2) Select the antenna setup in main menu screen
- (3) Adjust LNB configuration per each satellite
- (4) Execute scanning to find program
- (5) Exit from installation after all programs are searched.

### 1.1 Language

When the receiver is turned on for the first time the language selection menu is appeared as in the Fig 1-1.

Select the desired language and press OK to confirm it.

This receiver supports 7 languages.

- English,
- German,
- French,
- Portugal,
- Spanish,
- Turkish,
- Arabic,



[Fig 1-1]

Picture will be named by section number.



## 2. Installation



Press the OK key. Antenna setup is appeared on screen as upper second figure.

### 2.1 Antenna Setup

In this section you could know how to operate LNB set-up.

#### 2.1.1 Satellite

- When you adjust the LNB set-up, you select the satellite using ◀&▶ key.
- After selecting the satellite, Press OK
- Adjust LNB type, LNB Lo-Freq, 22kHz, DiSEqC, LNB power, 0/12V, TP, Positioner Setting.
- You can cancel the satellite you chose using ◀&▶ key.

#### 2.1.2 LNB type

Select LNB type using ◀ ▶ keys.  
There are 5 LNB alternatives.

- Universal 1 (9750MHz & 10600 MHz)
- Universal 2 (9750MHz & 10750 MHz)
- Single-SL (5150MHz & 5750 MHz)
- Single-SH (5150MHz & 5750 MHz)
- Standard For USA

22kHz control is automatically set for each LNB alternative.  
If Universal 1 or 2 is selected, 22kHz control should be "off state."

#### 2.1.3 LNB Lo-Freq

If the required LNB frequency is not available, select "Standard" and then enter the frequency manually using the numeric keys.

For USA : C-Band L/O : 5150 MHz  
Ku-Band L/O : 10750 MHz

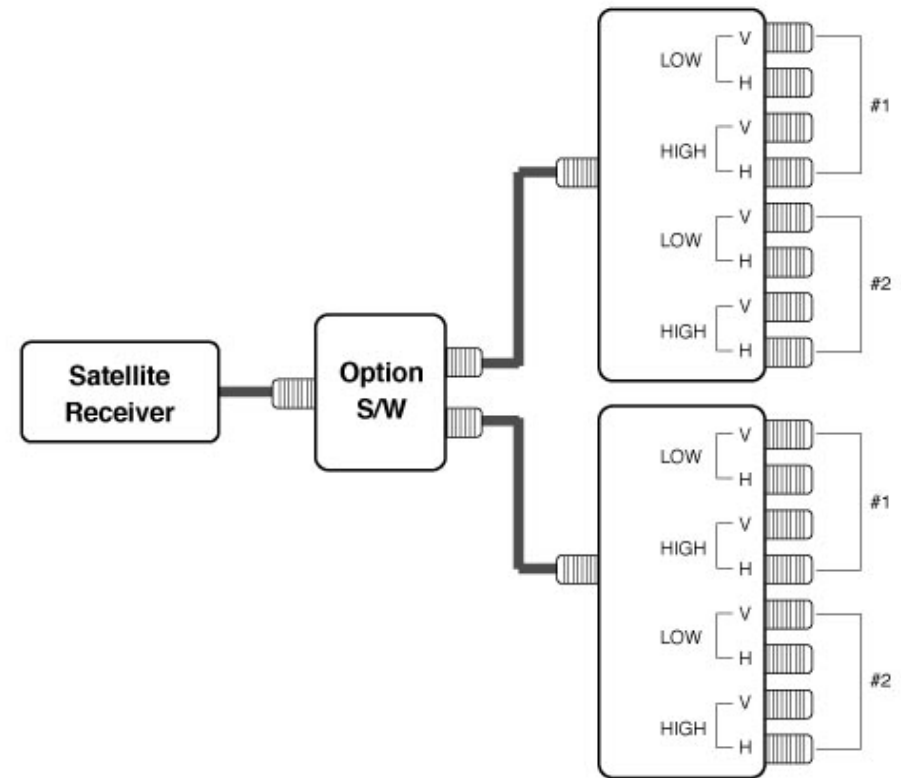
#### 2.1.4 22kHz

In case you are using a Dual LNB or two antennas connected to a 22kHz tone switch box, make 22kHz tone switch "ON" or "OFF" to select an LNB or an antenna.

#### 2.1.5 DiSEqC

- Full DiSEqC

If DiSEqC switching box is used in this Receiver, Select the port number to get the IF signal from the LNB, which is connected, to DiSEqC switching box.



• Option DiSEqC box

If the option switch is only used as shown in below figure. There are two kinds of different ways to scan satellite depending on LNB type.

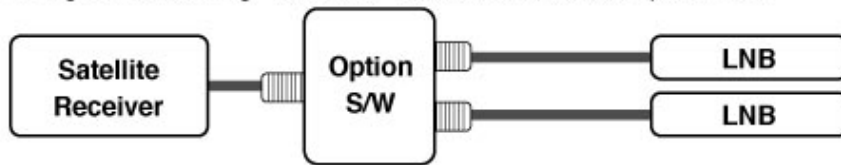
(1) For universal LNB.

Select a DiSEqC number to which the RF signal is fed the LNB.

(2) For standard LNB.

For low band scanning, "set 22kHz" to off and select a DiSEqC number.

For high band scanning, "set 22kHz" to on and select a DiSEqC number.



### 2.1.6 Skew

In case that LNB with mechanical polarizer is used in your system.

Adjust skew value by using "◀/▶"key and check signal status bar at the same time. Keep on adjusting at the maximum signal status.

### 2.1.7 TP

Select a specific transponder by using the VOL ◀▶ keys.

### 2.1.8 Positioner Setting

It is used to set the DiSEqC 1.2 motor & USALS

If you have no positioner equipment, Select "Disable". Otherwise you can select either DiSEqC 1.2 or USALS.

#### 1) DiSEqC 1.2

(1) Current position

Select the position number by using ◀▶ keys (#0~#26: default define, #27~#49: users define)

(2) Movement

Select East / West by using ◀▶ keys and press OK to stop

(3) Nudge East / West

Select Nudge East / West by using ◀▶ keys and press OK to save current position

(4) Recalculation

If it is used to shift the position for all satellites

Select Recalculation by using OK key and it makes above movement function

(5) East Limit Set

Move the position to the most eastern position and press OK then East Limit is stored

(6) West Limit Set

Move the position to the most western position OK then East Limit is stored

(7) Limits Disable

Select Disable limits by using OK key

(8) Go to reference

Select got to reference by using OK key

#### 2) USALS (DiSEqC 1.3)

(1) Satellite Position

It points out the position of saved satellite.

You can change the position of the satellite by numeric keys

(2) My Longitude

Please input Local Longitude by numeric keys

(3) My latitude

Please input Local Latitude by numeric keys

(4) Reference position

This is same as DiSEqC 1.2 Reference

(5) Move

The satellite's position of (1) and the one calculated by value of (2) & (3) will be shown. Press OK key and it will move.

(6) Store

Please select "Store" and the present position will be saved.

#### 2.1.9 Satellite Scan

After all LNB setting is finished, select and confirm Satellite scan, then channel searching is executed.

# If you press SIG key on RCU, signal strength menu will be displayed on the screen.

#### 2.2 Satellite scan

Scan all the transponder of selected satellites.

(1) Press OK key and Select wanted satellite by using ▼&▲key

(If you want to scan several satellites once, You can control by ◀▶ keys)

Then press OK key to execute scanning.

(2) You can select satellites whatever You chose though. It is possible to search only for 4 satellites among satellites you chose.

(3) Transponder will be consecutively scanned all selected satellites.



## 2.3 TP scan

Selected TP is scanned in this menu

- (1) Select TP scan in the installation menu
- (2) Select a satellite
- (3) Select TP to scan by using the ▲▼ key (using ◀▶ keys you can multiscan), then press OK to search

## 2.4 Network Scan

Procedure for setting up is same as TP scan.

Advantage: when TP information is updated, updated information should be scanned

## 2.5 Advanced Scan

Advanced Scan is used to scan the new TP of which the parameters have been entered manually. After setting the search parameters like down frequency, symbol rate and polarity by using the numeric keys and VOL ◀▶ keys, press "OK."

Setting Video PID/Audio PID/PCR PID

- You can set the PID to search program.
- After setting the PID values, press OK key.

## 2.6 Smart Search

### 2.6.1 How to add a new satellite

1. Select the satellite name with ◀▶ keys.
2. If you want to add a new satellite, press the OK key.

### 2.6.2 LNB Configuration

Please refer to 4.1 Antenna Setup.

### 2.6.3 Symbol range

- Select Full, High or Low
- Full : High and Low
- High : >7.5M
- Low : <7.5M

### 2.6.4 Polarity

- Select Horizontal / Vertical with ◀▶ keys.
- All : Scan Horizontal and Vertical.
- Horizontal : Scan Horizontal TP only.
- Vertical : Scan Vertical TP only.

### 2.6.5 Scan

- Select Scan type with ◀▶ keys.
- When you select the OK key, the scanning will start.



## 2.7 Edit TP/ Satellite

In this mode, you can add the New- Satellite and the new transponder information.

Also you can update or delete the transponder information.

### 2.7.1 How to add a new satellite

- Select "New" in the satellite name the using the numeric key or CH ▲▼ key, Press VOL ◀▶ keys to move digit.
- Maximum number of characters is 12-digit.
- Press OK key.
- Enter the Down frequency, Symbol Rate and LNB Polarity.
- Press EXIT or OK key, the new transponder information is stored.

### 2.7.2 How to rename the satellite

- Press OK after selecting a satellite of which you want to change name.
- Select "Rename" in the menu.
- Enter new name by using numeric key or CH ▲▼ keys and press OK key.

### 2.7.3 How to Delete/Restore a satellite

- Press OK key after selecting a satellite you want to delete.
- Press OK to confirm, otherwise press EXIT to cancel. The color of the deleted satellite name in the list is changed.
- The satellite which has had already searched channels cannot be deleted.
- To restore the deleted satellite, move the cursor to the deleted satellite and press OK key. Then select "Restore" in the screen and press OK key.

### 2.7.4 How to add a new transponder

- Press OK after selecting a satellite
- Select Edit TP and then Transponder list is shown
- Press OK key selecting "NEW" in the transponder list
- Enter the Down frequency, Symbol Rate and LNB Polarity
- Press EXIT or OK, the new transponder information is stored

### 2.7.5 How to delete or update a transponder added

- Press OK key after selecting a satellite
- Select Edit TP, then transponder list is shown
- Select a transponder you want to delete or update
- Press OK on the TP you want to Edit or Delete
- You can see the Edit or Delete in the small-menu
- In case you want to Edit a list TP  
Select EDIT and press "OK key  
Enter Down frequency, LNB polarity and Symbol Rate and press "EXIT" or OK  
Then New TP date is automatically updated
- In case you want to Delete a TP  
Select Delete in the small menu, press OK key  
Then the TP selected is deleted

## 3. Parental Control

After selecting Parental control and entering the correct password, the screen as shown in the right appears. The default password at the factory is "0-0-0-0".

You may change the PIN code, which is your password in other words, and lock the receiver to prevent children from watching selected programs.



### 3.1 Change PIN Code

You can change the PIN Code (Password) if you want.

- (1) Enter the Old password. If you enter this mode for the first time after purchasing the receiver, the OLD PIN Code is the default password.
- (2) Enter the new password.
- (3) Reenter the new password to confirm.

**Warning!** You must remember the New password because it is used in several Function as follows.

Password is required

- (1) To show parental locked channels
- (2) To enter Parental Control menu
- (3) To enter channel edit menu
- (4) To execute factory setting

## 4. Channel Edit

In this mode.

- (1) You can sort the channels out upon your Preference.
- (2) You can rearrange the channel list.
- (3) You can delete channel.
- (4) You can adjust the favorite channel list, as required.
- (5) You can skip channels.
- (6) You can change the channel name, as you want.
- (7) To enter channel edit mode, you need to press 4 digit password (factory setting is "0-0-0-0")

### 4.1 How to sort the channel

- (1) Press OK after selecting Sort.
- (2) Sub mode will be appeared as follows
  - Alphabetic
  - Satellite
  - FTA/Scramble
  - P-Lock
- (3) Select the mode among the 4 kinds of mode that you want to sort and press OK
- (4) Press EXIT to exit from this mode.



#### Note

The Format of Sorted List

- Alphabetic & Satellite: In Alphabetical order
- FTA/Scramble: The Free channels first & the scrambled channels later and vice-versa
- P-Lock: The channels of P-Lock first

### 4.2 How to move the channel

- (1) Press the 'OK' key after Selecting 'Move' key
- (2) Press OK to select a channel to move and then move the selected channel to the new position by using CH ▲▼ keys.
- (3) Reprress "OK" key.

## 4.3 How to delete the channel

- (1) Select "Delete" and press "OK."
- (2) Select a channel you want to delete by using the ◀▶ key.
- (3) Press OK key.
- (4) All channels that you selected are deleted.

## 4.4 How to store/release the favorite channel

- (1) Select "Favorite" and press "OK."
- (2) Press "OK", then this channel is included to the favorite channel list.
- (3) The mark stands for the favorite channel.
- (4) To delete a channel from the favorite list, go to the marked channel and Press "OK".

## 4.5 How to lock/unlock the channel

- (1) Select P-LOCK in the screen as shown and press OK.
- (2) Select the channel that you want to lock and press "OK".
- (3) This channel is now locked and the symbol of lock will be shown as a locked channel.
- (4) You can release the locked channel if you press OK after selecting the locked channel.
- (5) Once locked channel is selected while watching television, password is requested.
- (6) Picture and sound is appeared after the correct password is given by pressing the numeric key.

## 4.6 How to SKIP the channel

- (1) Select "SKIP" and then press "OK"
- (2) Select the channel you want to hide
- (3) Press "OK"

## 4.7 How to rename the channel

- (1) Press OK after selecting RENAME mode
- (2) Select the channel of which you want to change name
- (3) Press OK to enter the character input mode.
- (4) Put new names, as you want using the 4 arrows keys and numeric key. The maximum number of characters is 20.
- (5) After completion of entering new, press OK

## 5. User Setup

In this USER SETUP mode, you can select the sub-mode as shown on the [Fig 6] by pressing the OK key and CH ▲▼ key. The changed set-up is activated and stored by pressing the EXIT key.



### 5.1 Language

Press the EXIT key after you select your preferable language by using VOL ◀▶ key.

English, German, French, Portugal, Spanish, Turkish, Arabic, Croatia

### 5.2 Aspect ratio

You can set the TV aspect ratio (4:3 for normal TV & 16:9 for wide TV) by pressing VOL ◀▶ keys.

### 5.3 TV Type (USA Standard is NTSC)

You can set the TV type (PAL, NTSC and AUTO) by pressing VOL ◀▶ keys. If the setting value is Auto, then TV is set automatically by source program. So, the source program is PAL, TV set PAL source program is NTSC, TV set NTSC.

### 5.4 Time Setting

After selecting the Time Setting, you can adjust the time. Also you can set the wakeup time and sleeping time to turn receiver on and off automatically according to the time programmed.



## 5.5 Modulator

If you want to watch the broadcasting through, the modulator output, you could change the modulator channel as follows after pressing the OK key to enter the sub-menu.

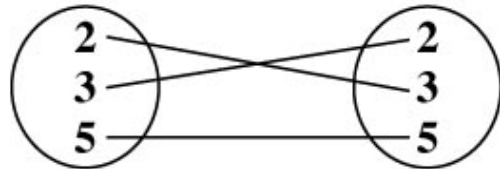
- (1) NTSC is supported.
- (2) You can adjust the Modulator type by pressing VOL ◀▶ key.
- (3) You can adjust Modulator type, you can go back to the previous mode by pressing EXIT or OK key.
- (4) The adjusted data is programmed automatically when the EXIT key is pressed.
- (5) Modulator channel can be changed from the channel 3 to channel 4.
  - 1) Set TV channel to 3 and find menu screen.
  - 2) Select modulator column and change the channel number by ◀▶ key.
  - 3) Press "EXIT" key to store and menu screen is appeared.
  - 4) Tune TV channel to the channel newly stored as in the above.

## 5.6 OSD setting

You can adjust the transparency level by using ◀▶ key.

## 5.7 Data Transfer (Receiver to Receiver)

- 1) Connect RS232 DB-9 Null Modem Cable (Pin #2 & 3 twisted) between master and slave receiver.
- 2) Leave the slave receiver power on condition all the time until completion of data transfer.
- 3) Hook up the master receiver to the TV and select "SW Transfer" at "User Setup" screen.
- 4) Select "Ver Code" or "Ch Data" by using "Vol◀" or "Vol▶" button. Then press "CH" button to start transfer. During data transfer, processing percentage will be displayed on the screen.



**Warning!** Do not disturb data transfer by touching any Remote button, RS232 Cable, IF Cable, RCA Cable etc, during data transfer period until "Please wait for saving" message disappeared. Interruption of data transfer could damage the receiver's flash memory chip which makes the receiver dead and void warranty.

## 6. Factory Setting

Once the Factory setting is selected and the correct password is given by pressing 4-digit numeric keys followed by OK key, whole parameters are changed to the value written in the factory. That is, factory setting functions your STB (Set Top Box) the first stage. If you do not want to continue this mode, press EXIT key before you enter password.



## 7. System Information

Shows the information of model name, data and version of STB.

## 8. Channel List

- you can see the channel list as shown in the above figure by pressing OK key
- To watch another channel, move the cursor to the channel you want by using ◀▶ keys ▲▼ PG ↑ PG ↓ and press OK key
- If favorite channels are saved, the list is changed from channel list TV to favorite list.
- Pressing TV/RADIO key change from channel list to channel list Radio You can exit from the channel list menu by pressing "EXIT" key or "OK" key.



## 9. Program Guide

- The title and start time of the program is shown as in the right figure after pressing EPG key.
- Select the particular channel you. The channel will be changed.
- If you want to watch TV with full screen, Press EXIT.



## 10. Audio change

- In multilingual program, favorite language is selected by passing AUDIO key and CH ▲▼ keys
- Audio mode (L-left, R-right, L/R-stereo) can be Changed By pressing AUDIO key and VOL ◀▶ key.

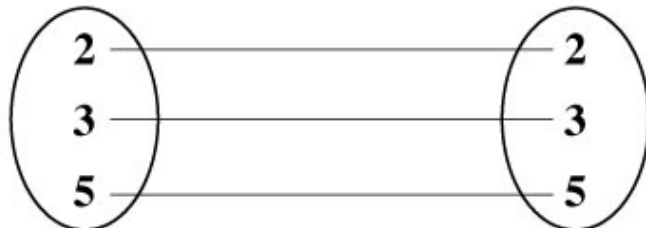


## 11. Recall the Favorite channel

- Press the FAV key to recall a stored favorite channel.
- Favorite channel is programmed and stored in the channel edit menu.

## 12. How to Download Software via RS-232 Serial Cable

- 1) Connect between Receiver and PC by RS-232 Serial Cable



- 2) Please find the following files  
 Execution File: GTROM\_...exe  
 Main Source Code: ...BIN  
 The above files may be variable whenever new software is released. Please copy these files to your PC directory and execute it.
- 3) Execute GTROM\_...EXE and the screen, which can select COM port, will appear as follows:



- Above program screen will be appeared on your computer monitor.
- 4) Input STB model exactly on above STB setting. You can refer to STB model on system information.
  - 5) Download code is Main Source code titled "...bin"
  - 6) Press browser to find and execute main source.
  - 7) If you find source program out, press Download
  - 8) If above process be done successfully, downloading processing will be displayed and actual program update will be done after downloading

### Caution!

Never turn off receiver during software downloading  
 Any interruption while downloading will damage the flash ROM which will void the warranty.  
 # GTROM\_...EXE file can be updated continuously.



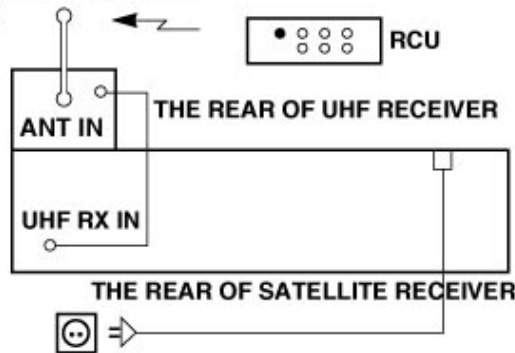
**WARNING :** To prevent electrical shortage, do not install the UHF Receiver on the condition that AC power cord of the Satellite Receiver is plugged in.

### 3.1 KIT LIST

1. UHF Receiver
2. UHF Antenna
3. UHF Remote Control
4. Battery(AAA Type) - 2pcs.

### 3.2 INSTALLATION

1. Take off the AC power plug of the Satellite Receiver from the wall socket.
2. Connect the UHF antenna to ANT IN.
3. Connect the Cable Assembly to the UHF RX IN on the rear of the Satellite Receiver.
4. Plug the AC powercord and turn on the receiver.
5. Use UHF Remote Controller.



### 3.3 SPECIFICATION

UHF Receiver

FREQUENCY	912.00MHz
MODULATION MODE	FSK
UHF INPUT LEVEL (SENSITIVITY)	-95dBm
WHIP ANTENNA	177mm
SIZE(mm)	65 x 96 x 33

UHF Remote Control

INDOOR USE	About 60m
OUTDOOR USE	About 200m
BATTERIES(AAA Type)	1.5V x 2pcs.

#### Tuner/Channel

Input connector	F-type, IEC169-24
IF Input Frequency	950MHz to 2150MHz
IF Loop through out	950MHz to 2150MHz
IF Frequency	Zero-IF
Input Level	-65dBm ~ -25dBm
LNB power	13/18V DC, 500mA Max.
DiSEqC Control	Version 1.3 Compatible
Band Switching	22KHz Tone
Demodulation	QPSK
Symbol Rate	2-45MSPS (SCPC, MCPC)
Viterbi Decoding Rate	1/2, 2/3, 3/4, 5/6, 7/8
Reed Solomon Decoding	FEC : 204, 188, t=8
DiSEqC	1.3 Compatible (STAB USALS)

#### MPEG Transport Stream & A/V Decoding

Demultiplex	According to ISO/IEC 13818-1
Input Stream	Max, 90Mbit/s
Aspect Ratio	4:3, 16:9
Video Resolution	720 x 576
Audio Decoding	MPEG Layer I and II
Audio Mode	Single/Dual Channel, Stereo, Joint Stereo
Sampling Frequency	16,22,05,24,32,44.1, 48KHz

#### Microprocessor & Memories

Main Processor	STi5518BVB, ST20 32bit
CPU Clock	81 MHz
Flash Memory	1 Mbyte
SDRAM	8 Mbyte
EEPROM	32 Kbit

#### Data Port

Connector	9Pin D-sub Type
Protocol	RS232 Asynchronous
Data Rate	Max. 19.2Kbps

#### RF Modulator

Connector	IEC 169-2, Male/Female
Frequency	470MHz to 860MHz
Output channel	CH 3-4
TV Standard	NTSC
Preset channel	Changeable by Menu Screen

#### Front Panel

4 Digits LED Display	Channel Number Display
3 Keys	Power, Channel Down and Channel UP,

#### Rear Panel

IF input	F-type Connector
IF Loopthrough output	F-type Connector
4 Phono/Cinch	Video, Audio L, Audio R, S/PDIF
Modulator	
RS232 Serial Port	9 Pin D-sub Type

#### Remote Control

Type	Infra-Red (Carrier Freq : 38KHz)
Battery	2 x 1.5V AAA Type

#### Others

Input Voltage	AC90-250V, 50/60Hz
Power Consumption	Max. 25 Watts
Standby Power	Less Than 5 Watts
Dimension	290 x 200 x 65mm 2.3Kg



## 5 TROUBLE SHOOTING

There may be various reasons for the abnormal of the unit. Therefore, if the unit does not work properly.

check the unit according to the procedures shown in the table below.

Problem	Possible causes	Remedy
LED on front panel does not light	AC power cord disconnected	Connect power cord properly into the power socket
No Picture or sound	Wrong connection of the video/audio output to TV input terminal	Connect two terminals correctly with scart cable or RCA or RF cable
	Wrong connection of satellite antenna cable	Connect the antenna cable correctly
	Wrong direction of satellite antenna	Adjust the direction of antenna
	No signal or weak signal	Check the cable connections, LNB and other equipment connected between the LNB and the receiver or adjust the antenna
	Wrong setting of channel information in MENU screen	Type the setting value correctly
Black-and-white screen or V-Hold	Your TV mode is different from satellite broadcasting mode	Use TV of same mode
		Use the NTSC/PAL converter connected to the receiver and TV
The remote controller is not working	Battery exhausted	Change the batteries
	Fluorescent light interfering with the remote controller	Switch off the light
	Remote controller is incorrectly aimed	Aim the remote control at the receiver
Distorted menu screen	Too high brightness and contrast level of TV set	Adjust brightness and contrast to low level
Not working	Process Down	Remove the power code or AC switch OFF/ON